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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/852,866	05/10/2001	Glenn E. Hoffman	2950	5151

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EXAMINER

ANDREWS, MELVYN J

ART UNIT	PAPER NUMBER
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1742

DATE MAILED: 10/22/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/852,866

Applicant(s)

HOFFMAN ET AL.

Examiner

Melvyn J. Andrews

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 April 2003 and 13 August 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2 and 4-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2 and 4-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on June 8, 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: |

DETAILED ACTION

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1, 2 and 4 to 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Avotins et al (US 5,464,465). Avotins et al discloses a process for producing agglomerates comprising iron ore (col.14, line 55) and paper fibers and **coke breeze** (col.16, lines 7 to 11) although the expression cellulose fiber is not explicitly disclosed by Avotins et al it is obvious to one of ordinary skill at the time the invention was made that paper fibers are the equivalent of cellulose fibers as admitted by applicants in Claim 16. but does not explicitly disclose a water content of 0%-5% of a "mixture" or a "green briquette" but Avontins et al does disclose in Example 1 that the moisture content of the iron ore may be about 8.70% and the mixture including the iron ore may be 9.13% prior to formation of pellet which indicates that less than 5% moisture was added prior to pellet formation and Avontins et al recognizes that moisture is a result effective variable it would have been obvious to one of ordinary skill in the art at the time the invention was made determine the optimum or workable ranges of the water addition. In re Boesch et al 205 USPQ 215

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Claims 1, 2, 4 to 7 and 10 to 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Crowe (US 2,865,731) in view of Avotins et al (US 5,464,465).

Crowe discloses a process of briquetting iron oxide with cellulose fibers (col.4, lines 6 to 9) but does not include a reductant but Avontins et al discloses the inclusion of additives such as paper fibers and coke breeze (col.13, line 57 to to col.14, line 3) form an iron ore agglomerate it would have been obvious to one of ordinary skill in the art at the time the invention was made to likewise add normally used additives such as coke breeze to the Crowe briquette which is intended as a feed to reduce iron oxides.

Also Crowe discloses a process for briquetting iron ore with cellulose fibers (col.4, lines 6 to 9) which may be tested for heat resistance by heating up to 2000° F in such a way that plenty of time was allowed for the paper to burn out (col.3, lines 53 to 58) but does not specify the time and temperature claimed in Claim 1 but it would have been obvious to one of ordinary skill in the art at the time the invention was made to optimize these result effective variables , *In re Antoni*, 195 USPQ 6

. With respect to Claims 8 and 9 Crowe discloses a product suitable for feeding to blast furnaces (col.1, lines 15 to 19) but does not disclose that the product is supplied to a steelmaking process but Avontins et al disclose that a product produced from iron bearing material and paper fibers is suitable to be used in blast furnaces as well as L-D converters (col.4, lines 50 to 63) which produces steel. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the Crowe product which is also produced from an iron material and paper fiber to produce steel in

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an L-D converter since the Avotins et al product and Crowe product are obviously equivalent sources of iron.

Claims 1, 2 and 4 to 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wienert (US 5,421,859) in view of Grandin et al (US 5,833,735). Wienert discloses a process for making hard composites from coal and iron ores comprising mixing particles with such an amount of water that a later compression squeezes out a small amount of the added water, aggregating the mixture and compressing the aggregates under a pressure in the range of 800 to 1600 kg per square cm. whereby a small amount of added water is squeezed out and a ribbon is formed which is divided into single compacted bodies (col.16, lines 11 to 46) and discloses the addition of limestone to the mixture (Fig. 1) but does not disclose the inclusion of ground paper (which is cellulose fiber) and does not disclose the specific amount of water squeezed from the mixture but Grandin et al discloses cold briquetting iron oxides and carbon carriers together with a binder which may be lime or ground paper (col.4, lines 49 to 59). It would have been obvious to one of ordinary skill in the art at the time the invention was made to include a binder such as ground in the Wienert mixture since ground paper is equivalent to limestone as a binder as taught by Grandin et al. Since Wienert et al recognizes that moisture is a result effective variable it would have been obvious to one of ordinary skill in the art at the time the invention was made determine the optimum or workable ranges of the water addition. In re Boesch et al 205 USPQ 215

Claims 1, 2 and 4 to 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over the Canadian patent No.1002761 in view of Avotins et al (US 5,464,465) The Canadian patent disclose a method for producing pellets from a slurry solid particles of iron ores blended with wood fibres (page 15 and 16) but does not disclose coal or the amount of moisture removed but Avontins et al discloses a process for producing agglomerates comprising iron ore, paper fibers and coke breeze (col.16, lines 7 to 11). It would have been obvious to one of ordinary skill in the art at the time the invention was made to include coal in the Canadian pellets since iron oxides are being reduced in both cases. With respect to the amount of moisture removed the Canadian patent discloses the step of separating water from the mixture thereby forming a moist mixture it would have been obvious to one of ordinary skill in the art at the time the invention was made to optimize the amount of water remaining in the moist mixture since moisture is recognized by the Canadian patent as a result effective variable . In re Boesch et al 205 USPQ 215.

Response to Arguments

Applicant's arguments filed December 9, 2002, have been fully considered but they are not persuasive for reasons set forth in Paper No.14.

Applicant's arguments filed April 2, 2003 have been fully considered but they are not persuasive.

Applicants' arguments with respect to Avontins are not persuasive of error because the amount of water contained in the claimed "mixture" or the claimed "green pellet" is not explicitly claimed and the claimed expression "0% to 5% added water by weight of the mixture" clearly includes the possibility that no water added.

In Claim 1 the expression "process consisting of" does not further limit the composition of the "mixture" or the "green briquette" see MPEP 211.03 Transitional Phrases page 2100-49-51.

In Claim 1 the expression "process consisting of" excludes any step not specified in the claim such as being "vacuum filtered" but Avontins is not limited to a "process consisting of vacuum filtering" see Avontins et al (col.14, lines 6 to col.16, line 11).

In Claim 1 the limitation "feeding the green briquettes into a rotary hearth furnace" does not require direct feeding since the "green pellet" may be dried as in Claim 2 and 7 introduced into a steelmaking furnace as in Claim 8

Applicant's arguments filed August 13, 2003 have been fully considered but they are not persuasive. In Claim 1 the expression "said process consisting of" does not further limit the composition of the "mixture" or the "green briquette" see MPEP 211.03 Transitional Phrases page 2100-49-51.

The "mixture" and "green briquette" comprises iron oxide, a reductant and cellulose fiber" water need not be present because the expression "0% to 5% added

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water” includes **no** added water but **no** other water is claimed as included in the “mixture” or “green briquette”.

Applicants arguments with respect to Grandin et al and Weinert are not well taken because no components are excluded from the “mixture” or “green briquettes” by the expression “said process consisting of” as in Claim 1.

Applicants method does not exclude lime or molasses from the “mixture” or green pellets” as argued.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Melvyn J. Andrews whose telephone number is 703-308-3739. The examiner can normally be reached on 8:00A.M. to 4:30 P.M..

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy V King can be reached on 703-308-1146. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0651.


MELVYN ANDREWS
PRIMARY EXAMINER

mja
October 20, 2003